



DA-VA

Analog Video Distribution Amplifier

User manual

Rev.5

Nevion Support

Nevion Europe

P.O. Box 1020
3204 Sandefjord, Norway
Support phone 1: +47 33 48 99 97
Support phone 2: +47 90 60 99 99

Nevion USA

1600 Emerson Avenue
Oxnard, CA 93033, USA
Toll free North America: (866) 515-0811
Outside North America: +1 (805) 247-8560

E-mail: support@nevion.com

See <http://www.nevion.com/support/> for service hours for customer support globally.

Revision history

The latest version is always available in pdf-format on our web-site:

<http://www.nevion.com/>

Current revision of this document is the uppermost in the table below.

Revision	Replaces	Date	Change description
5	4	2009-06-25	Specified support for AES-3id
4	3	2008-07-15	Added Declaration of Conformity.
3	2	2007-10-26	New front page and removed old logo.
2	1	2007-10-05	Added Materials Declaration and EFUP
1	A	13.10.04	Detector functionality added (HW rev. 3)
A		08.01.04	Preliminary version (HW rev. 1 and 2)

Index

1. General	4
2. Specifications	5
4. Connector module	6
4.1 <i>Mounting the connector module</i>	6
5. Module status	7
5.1 <i>GPI ALARM – Module Status Outputs</i>	7
5.2 <i>Front Panel - Status Monitoring and Signal Detection</i>	8
General environmental requirements for Network flashlink[®] equipment	8
Product Warranty	9
Materials declaration and recycling information	10
Materials declaration	10
Environmentally-friendly use period	10
Recycling information	11
EC Declaration of Conformity	12

1. General

The Flashlink DA-VA is an analog video distribution amplifier module providing high performance media distribution for analog signals from DC to 200 MHz. The module also complies with the SMPTE 259M specification for SDI signals. The input signal is distributed to 6 equivalent outputs. The input is switchable to high impedance for multi drop purposes. Outputs have 75 ohms impedance. A signal detector will indicate if signal is present (LED and GPI).

The DA-VA is designed for all distribution purposes in studio, duplication and broadcast applications. The DA-VA is well suited for distribution of AES-3id signals (75 ohms unbalanced AES over coaxial cables).

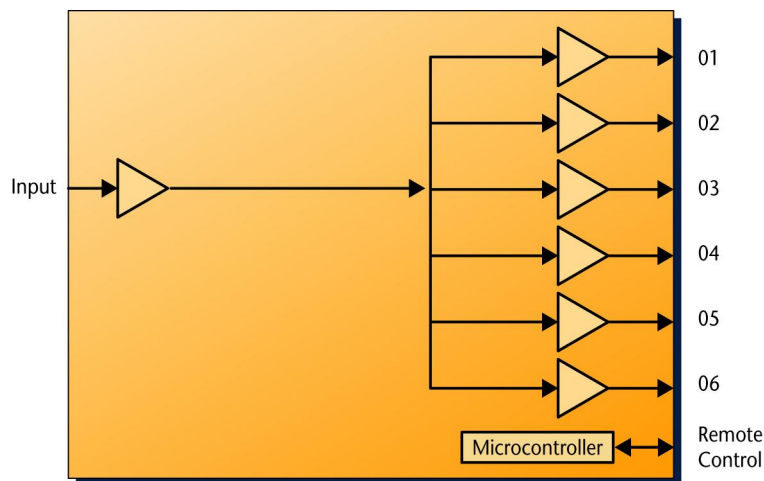


Figure 1 – DA-VA Analog Video Distribution Amplifier

2. Specifications

Electrical Input

Maximum input:	2 Vp-p
Coupling:	DC
Impedance:	75 ohm (switch able to high impedance)
Connector:	BNC

Electrical Output

Number of outputs:	6
Connector:	BNC
Impedance:	75 ohm
Signal polarity	6 non inverting

Analog video:

Frequency range:	0 to 200 MHz -3dB (useful for AES-3id)
Return loss:	> 40dB @ 10MHz
Video S/N ratio:	> 70 dB
Differential gain:	< 0.1 %
Differential phase:	< 0.1 °
Gain:	0 dB ± 0.1 dB 0-15 MHz 0 dB ± 0.5 dB 0-150 MHz

Specifications for the analog amplifier used for SDI-video (SMPTE259M):

Gain:	0 dB
Jitter:	< 700 ps, typ. 250 ps
Return loss:	> 15dB @ 270MHz
Data rate:	up to 270 Mbps
Rise/fall overshoot:	< 10 %, typ. 0 %
Rise and fall time:	> 400 ps, < 1500 ps, typ. 1000 ps
Rise/fall time difference:	< 500 ps, typ. 100 ps

Electrical

Power:	+5V DC / 0.1 W, ±15V DC / 1.9 W
Control:	Control system for access to setup and module status with BITE (Built-In Test Equipment) for use with GYDA Control System

4. Connector module

The DA-VA has a dedicated connector module: DA-VA-C1. This module is mounted at the rear of the sub-rack. The module is shown in figure 6.

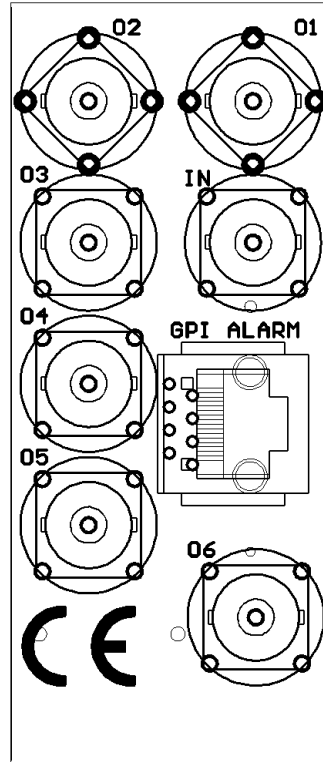


Figure 6 - Overview of the DA-VA-C1 connector module

The electrical input signal is connected to the IN BNC and the electrical outputs are connected to the O1 to O6 BNC's. Please note that all 6 outputs are non-inverted. On the back side of this board, there is a DIP switch to set the termination. If switch 1 is on, there is a 75 ohms termination. DIP switch 2 is not used.

4.1 Mounting the connector module.

The details of how the connector module is mounted, is found in the user manual for the sub-rack frame FR-2RU-10-2.

This manual is also available from our web site: <http://www.nevion.com/>

5. Module status

The status of the module can be monitored in three ways.

1. GYDA System Controller (optional).
2. GPI at the rear of the sub-rack.
3. LED's at the front of the sub-rack.

Of these three, the GPI and the LED's are mounted on the module itself, whereas the GYDA System Controller is a separate module giving detailed information on the card status. The functions of the GPI and the LED are described in sections 5.1 and 5.2. The GYDA controller is described in a separate user manual.

5.1 GPI ALARM – Module Status Outputs

These outputs can be used for wiring up alarms for third party control systems. The GPI outputs are open collector output, sinking to ground when an alarm is triggered. The GPI connector is shown in figure 7.

Electrical Maximums for GPI outputs

Max current: 100mA

Max voltage: 30V

DA-VA module GPI pinning:

Signal	Name	Pin #	Mode
Status	General error status for the module.	Pin 1	Open Collector
Signal	Signal detected (HW revision 3 only)	Pin 2	Open collector
Ground	0 volt pin	Pin 8	0V.

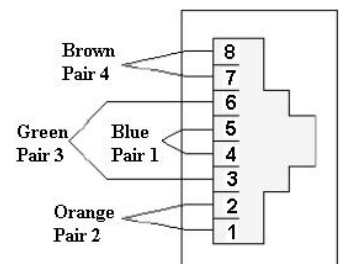


Figure 7 - GPI Pinout

5.2 Front Panel - Status Monitoring and Signal Detection

The status of the module can be monitored visually at the front of the front of the module. T

The DA-VA has one LED showing the status. The hardware revision 2 of the DA-VA has also a built in detector for signal monitoring. When signal is present, LED is green, otherwise it will be red. The LEDs are described in the following table:

Diode \ state	Red LED	Yellow LED	Green LED	No light
Status	Module is faulty		Module is OK Module power is OK	Module has no power
Signal	No signal detected		Signal present	Module has no power

General environmental requirements for Network flashlink[®] equipment

1. The equipment will meet the guaranteed performance specification under the following environmental conditions:
 - Operating room temperature range 0°C to 45°C
 - Operating relative humidity range up to 90% (non-condensing)
2. The equipment will operate without damage under the following environmental conditions:
 - Temperature range -10°C to 50°C
 - Relative humidity range up to 95% (non-condensing)

Product Warranty

The warranty terms and conditions for the product(s) covered by this manual follow the General Sales Conditions by Nevion Europe AS. These conditions are available on the company web site of Nevion Europe AS:

www.nevion.com

Materials declaration and recycling information

Materials declaration

For product sold into China after 1st March 2007, we comply with the “Administrative Measure on the Control of Pollution by Electronic Information Products”. In the first stage of this legislation, content of six hazardous materials has to be declared. The table below shows the required information.

組成名稱 Part Name	Toxic or hazardous substances and elements					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr(VI))	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
DA-VA	X	O	O	O	O	O
O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.						
X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.						

Environmentally-friendly use period

The manual must include a statement of the “environmentally friendly use period”. This is defined as the period of normal use before any hazardous material is released to the environment. The guidance on how the EFUP is to be calculated is not finalised at the time of writing. See <http://www.aeanet.org/GovernmentAffairs/qfLeOpAaZXaMxqGjSFbEidSdPNtpT.pdf> for an unofficial translation of the draft guidance. For our own products, Nevion has chosen to use the *50 year figure* recommended in this draft regulation.

Nevion suggests the following statement on An “Environmentally Friendly Use Period” (EFUP) setting out normal use:

EFUP is the time the product can be used in normal service life without leaking the hazardous materials. We expect the normal use environment to be in an equipment room at controlled temperature range (0°C - 40°C) with moderate humidity (< 90%, non-condensing) and clean air, not subject to vibration or shock.

Further, a statement on any hazardous material content, for instance, for a product that uses some tin/lead solders:

Where a product contains potentially hazardous materials, this is indicated on the product by the appropriate symbol containing the EFUP. The hazardous material content is limited to lead (Pb) in some solders. This is extremely stable in normal use and the EFUP is taken as 50 years, by comparison with the EFUP given for Digital Exchange/Switching Platform in equipment in Appendix A of “General Rule of Environment-Friendly Use Period of Electronic Information Products”. This is indicated by the product marking:



It is assumed that while the product is in normal use, any batteries associated with real-time clocks or battery-backed RAM will be replaced at the regular intervals.

The EFUP relates only to the environmental impact of the product in normal use, it does not imply that the product will continue to be supported for 50 years.

Recycling information

Nevion provides assistance to customers and recyclers through our web site <http://www.nevion.com>. Please contact Nevion' Customer Support for assistance with recycling if this site does not show the information you require.

Where it is not possible to return the product to Nevion or its agents for recycling, the following general information may be of assistance:

- Before attempting disassembly, ensure the product is completely disconnected from power and signal connections.
- All major parts are marked or labelled to show their material content.
- Depending on the date of manufacture, this product may contain lead in solder.
- Some circuit boards may contain battery-backed memory devices.

EC Declaration of Conformity



MANUFACTURER	Nevion Europe AS P.B. 1020, N-3204 SANDEFJORD, Norway	
AUTHORISED REPRESENTATIVE (Established within the EEA)	Not applicable	
MODEL NUMBER(S)	DA-VA	
DESCRIPTION	Analog Video Distribution Amplifier	
DIRECTIVES this equipment complies with	LVD 73/23/EEC EMC 2004/108/EEC	
HARMONISED STANDARDS applied in order to verify compliance with Directive(s)	EN 55103-1:1996 EN 55103-2:1996	
TEST REPORTS ISSUED BY	Notified/Competent Body	Report no:
	Nemko	E08450.00
TECHNICAL CONSTRUCTION FILE NO	Not applicable	
YEAR WHICH THE CE-MARK WAS AFFIXED	2008	
TEST AUTHORIZED SIGNATORY		
MANUFACTURER	AUTHORISED REPRESENTATIVE (Established within EEA)	Date of Issue
		2008-07-15
		Place of Issue
		Sandefjord, Norway
		
Name	Thomas Øhrbom	
Position	Quality Manager (authorised signature)	